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THE EFFECTS OF A WORD STUDY SPELLING PROGRAM IN A  
DIFFERENTIATED CLASSROOM

by  
Lauren M. Cassano

A Thesis

Submitted in partial fulfillment of the requirements of the Master of Arts Degree  
of  
The Graduate School  
at  
Rowan University  
May 1, 2005

Approved by

Date Approved

May, 2005

## ABSTRACT

Lauren M. Cassano  
The Effects of a Word Study Spelling Program in a  
Differentiated Classroom  
2004/05

Dr. Louis Molinari  
Master of Arts in Elementary Education

The purpose of this study was to determine if implementing a word study spelling program in a differentiated classroom could improve students' long-term retention of spelling words. This study compared a word study program with a more traditional spelling approach. The findings of the experiment indicated that no significant difference existed between the two different methods of instruction.

After receiving parental permission, the study began in a third grade classroom with 20 students. A pretest/posttest design was used in two phases. Phase I of the study used a traditional spelling approach using basal words obtained from the Scholastic reading series. Phase II implemented a word study spelling approach, which used individualized spelling lists derived from a spelling inventory. Approximately three weeks passed within each phase between the pretest and posttest in order to establish retention levels. These results were calculated after both phases were completed and the difference scores in each phase were compared. Also, a non-independent t-test was used to further analyze if one method of instruction provided better levels of retention than the other.

Although the study provided the examiner with comprehensible results, possible recommendations were discussed and further research was suggested.

## Acknowledgements

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## Table of Contents

Chapter 1: The Problem .....	01
Significance of the Study.....	01
Purpose of the Study .....	08
Statement of the Problem .....	09
Statement of the Hypothesis .....	09
Method of Study .....	09
Limitations of the Study .....	10
Description of Setting .....	10
Definition of Terms.....	11
Organization of the Study .....	12
Chapter 2: Review of Literature.....	14
Chapter 3: Design of the Study.....	33
Design .....	33
Participants.....	34
Instrumentation.....	35
Procedure.....	36
Chapter 4: Analysis of Data.....	39
Results.....	39
Chapter 5: Conclusions and Recommendations.....	44
Conclusions.....	44
Recommendations.....	46
List of References.....	49

Appendices.....	53
Appendix A – Sample of a Traditional Spelling Lesson Plan .....	53
Appendix B – Sample of an Extended Word Study Lesson Plan .....	55
Appendix C – Elementary Qualitative Spelling Inventory .....	57
Appendix D – Ranges of Development.....	59
Appendix E – Characteristics of Different Spelling Stages.....	61
Appendix F – Parental Consent Form.....	63
Appendix G – IRB Approval Form.....	65

## Chapter 1

### The Problem

#### Significance of the Study

It is hard to believe that many years ago, teachers taught in a one-room schoolhouse where they were faced with the challenges of instructing children of all ages with different abilities and backgrounds, all at the same time. One might think that such challenges would no longer exist in today's classrooms considering all of the resources that are available in education. However, teachers today continue to face these challenges in their classrooms on a daily basis. Children come to school in September deserving the right to an education. They come to school with many different cultural backgrounds, beliefs, and interests. Furthermore, these same children possess a variety of learning styles, which continuously affect their academic readiness in various subject areas.

Considering these variables, along with several others, the teacher's role in education has reached a new plateau of challenges. Carol Ann Tomlinson (2001) states that one-size-fits-all instruction will inevitably sag or pinch—exactly as single-size clothing would—students who differ in need, even if they are chronologically the same age. Just as one child is noticeably different from another child in appearance, his/her academic styles or abilities differ as well. Therefore, it would be advantageous for students if teachers provided them with a learning environment that was conducive to their different ability levels. Also, teachers should construct and implement a framework that incorporates the required curriculum to meet each individual's needs. This idea is the rationale behind differentiated instruction.



The most important steps in planning for differentiation are determining what the learner can do and setting achievable learning goals to inform instruction and guide new learning. Some students will require more instruction and guidance than others to meet their learning goals. Regardless of whether students move quickly to independence or require more support, they all can experience successes through differentiation. Due to the wide range of learners in the multilevel classroom, learning tasks are generally open-ended and have a continuum of expectations. Differentiated instruction can be applied in all subject areas in a variety of ways. There are several different techniques and strategies an educator can implement considering their students' ability levels in accordance with the subject they wish to differentiate. This study will concentrate on the subject of spelling, more specifically a differentiated spelling program called "word study". This alternative to traditional spelling instruction is not based on the random memorization of weekly spelling words. Instead, this approach considers the many regularities, patterns, and rules of English orthography that are needed to successfully read, write, and spell. Word study is not a "one size fits all" program of instruction. One of the most unique qualities of word study is the critical role of differentiated instruction for different levels of word knowledge (Bear, et al., 2000). Furthermore, word study begins with what a student already knows and uses that prior knowledge to formulate individualized spelling lists. Students generate ideas based mostly on their personal experiences and/or prior knowledge of a subject area or topic. Therefore, this concept behind word study further enhances the importance of igniting familiar ideas with students. Rather than a variety of surface-level activities designed only to ensure repeated exposure and memorization, word study encourages active exploration and

examination of word features that are within a child's stage of literacy development (Bear, et al., 1996). Word study is an active process where students make their own judgments about words and their patterns or similar characteristics. The student can then begin to construct meaning and understanding of words and develop their own rules for how word patterns are related and how different features of words work.

Spelling instruction in American schools has traditionally proceeded on the basis that memorization of needed words is the most productive route to spelling ability (Hodges, 1981). However educators need to be made aware that students actively contribute to their own learning. Educators should also realize that students need to be provided with numerous and frequent opportunities to explore English spelling in their daily reading and writing activities. Learning to spell is an activity that consumes a significant portion of each student's academic life. A great deal of research has been written about the English language and how and why students spell words the way they do. However, little research has been done to study the internal functioning of the brain itself as students struggle to learn a greater or lesser number of the approximately 4,500,000 words comprising our English orthographic system. To assume that the human brain has the capacity to rote memorize several millions of letter sequences, in the absence of some underlying categorical unity binding them all together, is to make spelling a unique processing act, qualitatively and quantitatively different from the oral processing system from where it derived originally (Laurita, 1976).

In most classrooms, spelling instruction consists of administering a pretest on Monday followed by a posttest on Friday. A table demonstrating this process and that of an extended word study program will be revealed in the Appendices. Although many

students will score 100% on the posttest, they may not have the ability to recall the same words and accurately spell them in later writing assignments. Therefore, one can argue that these students are not actually learning how to spell their new words; instead they are simply memorizing them only to forget some of them shortly thereafter. This study will attempt to show that memorizing spelling words for a test is not the same as truly learning and understanding the words. Also, this study will try to provide facts that will determine if students retain new spelling words better if the words are geared toward their individual learning styles and developmental stages.

Differentiated instruction differs from a traditional classroom in several ways. Simply stated by Verna Eaton (1996), differentiated instruction is an approach to planning so that one lesson is taught to the entire class or a group while meeting the individual needs of each child. Differentiated classrooms provide students with many different opportunities for learning. Also, these opportunities initiate academic growth and responsibility within each student enabling them to experience the reality of success. Carol Ann Tomlinson (2001) reports that differentiated instruction is a student-centered approach where the teacher begins where the student begins. It is a more qualitative type of instruction rather than quantitative. She believes that simply adjusting the quantity of an assignment will generally be less effective than adjusting the nature of the assignment to match students needs as well. Dr. Bruce Fischman (2001) agreed that the philosophy behind differentiated instruction calls for the teacher to be proactive in using a wide repertoire of curricular and instructional approaches. This wide array of approaches should be used consistently with students who have diverse needs, abilities, strengths, experiences, and interests, in order to best support their learning.

The purpose of word study is to examine words in order to reveal consistencies within the written language system and to help students master the recognition, spelling, and meaning of specific words (Bear et al., 2000). This concept is important because spelling, reading, and writing are interconnected. The literacy skills obtained through learning these interrelated subjects provide students with a lifelong capacity to transfer knowledge, which will transmit through cultures over time. It is a never-ending process.

However, it can be a difficult task for teachers to attempt to differentiate instruction without adequate knowledge and familiarity about their students. Learning profiles can be administered in order to determine student readiness or interests. Also, surveys, questionnaires, or interviews with students can provide the teacher with a large amount of information that will enable them to better understand their students and begin focusing on their needs and abilities. As reported by Smutny and Franklin (2003), the teacher should not begin modifying the curriculum until he/she becomes more familiar with his/her students' strengths.

### *What is Word Study?*

Word study is based on the notion that where a student is in his/her spelling development can serve as a guide for further instruction. Because individual students progress at different rates along a developmental continuum, spelling instruction should accommodate individual differences while attempting to instill a positive attitude about language in general. Word study instruction integrates spelling, phonics, and vocabulary instruction. In word study, students examine letter sounds, structure, and meaning. Word study does not simply teach words; instead it teaches students process and strategies for examining and thinking about the words they read and write (Bear & Templeton, 1998).

In planning for spelling instruction, it is important to assess student performance in order to determine an appropriate starting point for instruction.

One of the easiest ways to know what children need to learn is to look at the way they spell words. Children's spellings provide a direct window into how they think the system works. According to Vygotsky (1962), if educators can interpret what children do when they spell, they will be able to target a "zone of proximal development" and plan word study that the student is conceptually ready to master. Furthermore, by applying basic principles of child development, educators have learned how to engage children in learning about word features in a child-centered, developmentally appropriate way (Bear, et al., 2000). At the start of a word study program, teachers use a spelling inventory to determine which stage of spelling development each student is at and then groups students for instruction (Leipzig, 2000). These spelling inventories are arranged from easiest to hardest. Words are chosen because of their frequency of occurrence and because of their orthographic patterns. The inventories are designed to help educators analyze the words spelled correctly as well as the invented spellings to determine a spelling stage (Bear, et al., 1996). Specifically, there are 5 developmental stages of spelling according to word study: preliterate, letter name, within word pattern, syllable juncture, and derivational constancy. Each of these stages will be explored further in Chapter 2. After these groups are calculated, teachers can develop differentiated instruction based on the developmental level that each group of students has achieved. Determining a stage of spelling development for a student is not for creating a label, but serves as a starting point for planning instruction. Word study uses various activities such as word hunts, word sorts, pattern activities, games, and developmental word study

journals. These types of activities initiate and promote active work with different words. This process helps students make generalizations about words and related patterns that can be applied to the reading and spelling of unknown words in actual reading and writing tasks (Barnes, 1989). Ongoing assessment occurs through the examination of students' writing and of their performance in word study and spelling activities (Bear & Templeton, 1998). Students can move past the traditional method of simple memorization and develop ways to become active learners who make sense of their words and appropriately create relationships, which correlate with the English language.

Word study becomes useful and instructive when it is based on students' levels of development and when appropriate words and patterns are explored through interesting and engaging activities (Bear & Templeton, 1998). This child-centered instruction assists children in becoming more proficient spellers, as well as helping them to make decisions in their own learning and developing an interest in learning their language. To understand spelling development means that educators should know about the nature of spelling and know what students understand about letters and sounds in addition to letter patterns and syllable patterns. General knowledge is what readers and writers access when they encounter a new word, when they do not know how to spell a word, or if they do not know a specific word's meaning. The better their knowledge of the system, the better they are at decoding an unfamiliar word, inventing a correct spelling, or guessing a word's meaning (Bear, et al., 2000).

Research focusing on this type of word study spelling program in an elementary school has not been fully explored. More research needs to be carried out in order to determine ways in which students can learn spelling words more effectively so that they

can better retain their words long after a spelling test is administered. Helping students to correctly utilize their new spelling words in their writing is another important skill that should be explored further through research. Students have a natural curiosity about words and their meanings. It is important that spelling be taught to students directly, not only as an extension of reading and writing. Learning to spell words assists students with the construction and formation of other words and also aids them in their reading and writing assignments. Generally, if a student knows how to spell a word, they also know how to read it and how to incorporate the word into their writing appropriately. Of course, this is based on the assumption that the student fully comprehends the meaning of such words. Direct spelling instruction makes for better readers and writers. When students understand this, it reinforces their desire to learn more.

#### Purpose of the Study

This study will attempt to determine if implementing a differentiated word study spelling program can better improve students' long-term retention of spelling words. The word study program, which is based on students' individual language development levels, will be compared to the uniform basal spelling lists that are commonly used in classrooms today. This study will briefly evaluate the historical aspect of spelling instruction and how students learn to spell words. Also, this study will examine the different characteristics of the word study program and the ways in which an educator can incorporate this program into his/her classroom. Instructional methods and assessments that coincide with word study will be studied, in addition to student performance and the overall attitude toward spelling instruction in general.

### Statement of the Problem

Could it be that implementing a differentiated word study spelling program, based on students' individual language development levels, can better enhance students' long term retention of spelling words more than the uniform basal spelling lists used in most classes? This study will further explore the characteristics of word study and determine if it does enhance the retention of spelling words more than the basal spelling lists.

### Statement of the Hypothesis

There will be no significant difference in the long term retention of spelling words between students whose spelling lists are differentiated, based on their developmental level via the word study program, and students whose spelling words are uniform lists from the basal reader.

### Method of Study

This study will attempt to determine if students' long term retention of spelling words is better enhanced by a word study program, geared toward their developmental spelling stage, rather than using the more traditional spelling lists provided by the basal reader. The word study spelling lists will be individualized and determined by the teacher through the use of a spelling inventory. Using this type of instrument for assessment provides the teacher with the necessary information to formulate an individualized spelling list for each student. These lists are designed to accommodate every student's educational needs and abilities. Other assessments, such as pretests and posttests, will be administered to the students, while considering the length of time between each test. First the basal words will be tested. The pretest will be administered and then about 3 weeks later the posttest will be given to evaluate student response in



regards to retention. This will aid the teacher in recognizing if the student truly knows how to spell the words accurately, or if the student simply memorized the words prior to taking the initial test. The students will then participate in the word study spelling program where the spelling inventory will be given. These words are administered much like the basal words, in that the word is said, used in a sentence, and then said again. Students will attempt the pretest, which arranges words from easiest to hardest, and then the teacher will decide what level of spelling development the student is presently at according to their number of mistakes. Again, students will be retested on their individualized list approximately 3 weeks later to assess their retention of the words. Pretest and posttest scores will be recorded to show comparisons between the two different programs.

#### Limitations of the Study

Incorporating this type of word study spelling program has never been introduced to the class before this time. Attempting to implement a new method to teach spelling words may be a limitation of the study. Also, because some of the words on the spelling inventory may be too complicated for some students to spell correctly, they may become easily frustrated. This could be another limitation to the study. It should also be considered that only a small population is being used to complete this study, therefore limiting the accuracy to a small percentage of students.

#### Description of the Setting

The setting of this study will take place in Southern New Jersey at a school named Kresson Elementary School. This school has a diverse population of approximately 600 students from Kindergarten through fifth grade. These students come mostly from

middle to upper income families. There are a number of languages, cultures, religions, and disabilities represented among these students. This study will focus on a third grade classroom made up of 20 students; 11 girls and 9 boys. This is a mixed ability classroom where no special needs students are present, however several different learning styles and ability levels exist.

#### Definition of Terms

1. Differentiated Instruction – a teaching approach that is based on the idea that the same curriculum is taught to the whole class, while modifications and/or adaptations are made to accommodate all students' needs and abilities.
2. Orthography – the writing system of a language, specifically the correct sequence of letters.
3. Spelling – the process of converting oral language to visual form by placing graphic symbols on some writing surface.
4. Word Study – a learner-centered approach to instruction in phonics, spelling, word recognition and retention, and vocabulary.
5. Preliterate Spelling Stage – the first stage of spelling development before letter-sound correspondences are learned.
6. Letter Name Spelling Stage – the second stage of spelling development where students recognize beginning, middle, and ending sounds with accurate letter correspondence.
7. Within Word Pattern Spelling Stage – the third stage of spelling development where students have proficient basic letter-sound correspondence of the written language and can begin to identify letter sequences that function as a unit.

8. Syllable Juncture Spelling Stage – the fourth stage of spelling development where students learn about changes in spelling such as consonant doubling or dropping the final e.
9. Derivational Constancy Spelling Stage – the last, most advanced, stage of spelling development where students can create new words from existing words such as attaching a prefix or suffix to a base word. In this stage, students examine words and their related histories and meanings.
10. Zone of Proximal Development – a term coined by the Russian psychologist Vygotsky referring to the ripe conditions for learning something new. A person's ZPD is that zone which is neither too hard nor too easy.

#### Organization of the Study

Chapter 1 has attempted to establish the significance of this study by describing a word study spelling program to be used in a mixed ability classroom. The need to complete this experiment was explored through various theories, mainly differentiated instruction. The problem was stated and the purpose for pursuing this study explained. A null hypothesis was given as having no significant difference in the long-term retention of spelling words between students whose spelling lists are differentiated through word study, and those whose spelling lists are obtained through the basal reader. The method of study, limitations of the study, description of the setting, and the definition of terms pertaining to this study were also explained.

Chapter 2 will review current literature regarding the history of orthography, as well as the characteristics of word study. Each level of spelling development will be explained thoroughly. Furthermore, Chapter 2 will provide the reader with a detailed

description of how to implement a word study spelling program effectively. Spelling inventories will be described, in addition to how educators can use them appropriately. Also, the methods that should be used to score the inventories in order to determine a developmental spelling stage will be explained as well. Previous discoveries pertaining to these areas will also be discussed in order to provide the reader with relevance as to why additional research on this topic is necessary.

Chapter 3 will discuss the method of the study by identifying the setting and population to be studied. Also, this Chapter will explain the research design of this study including the specific types of instruments that will be used.

Chapter 4 will present the findings of the study. It will report and compare the data collected and further evaluate its significance.

Finally, Chapter 5 will attempt to draw appropriate conclusions from the collected data to determine if the null hypothesis was confirmed or rejected. Recommendations for further research will be made as well.

## Chapter 2

### Review of the Literature

Differentiation is about students achieving high-quality performance while developing and using their particular strengths as a foundation. General educators are expected to integrate and educate students who have very diverse backgrounds and needs. Because of the many needs these students present, many general educators are concerned about how they will educate these students in a way that will prove effective in their learning. According to the National Research Council (Tomlinson, 1990), it is known by educators that the meaning-making process is influenced by the student's prior understandings, interests and beliefs; how the student learns best; and the student's attitude about self and school. By offering variations in classroom activities, struggling students become more aware of the different choices they can make in order to understand what the rest of the class is doing. Differentiated instruction provides students with alternatives in completing tasks in a manner that are more comfortable for them and more accommodating to their needs. Furthermore, differentiated instruction gives these students the opportunity to demonstrate their individual strengths and gain a higher level of self-esteem, which will most definitely influence their future academic achievements.

Students learn more enthusiastically the things that they can connect to their interests or things that they believe they can do well. Also, students can learn more efficiently if they can acquire new information in a way that is suitable and comfortable for them. For example, if a particular student learns best through art and pictures, then perhaps the teacher can introduce new vocabulary words using art and pictures rather

than simply using the text. As described by Tomlinson (2001), every student does some things relatively well. It is important for teachers to find those things and to affirm them both in private conversations and before peers, to design tasks that draw on those strengths, and to ensure that the student can use those strengths as a means of tackling areas of difficulty. Kim L. Pettig (2000) agrees that differentiating tasks for students requires them to work harder and become more responsible to uncover their own learning.

Willis and Mann (2000) reported that teachers could differentiate three aspects of the curriculum: content, process, and products. Content refers to the concepts, principles, and skills that teachers want the students to learn. All students should be given access to the same content. Process refers to the activities that help students make sense of and come to own the ideas and skills being taught. Products refer to the culminating projects that allow students to demonstrate and extend what they have learned. Any or all of these principles can be modified at any time. Marian Diamond (2002) agrees that teachers who are new to differentiation may want to begin by varying the content, process, or product, rather than all three at once. Furthermore, Diamond believes that as a teacher becomes more proficient using these techniques, differentiation can occur at all three stages for some students. This is especially appropriate for more able students, as the complexity of the content can provide for more challenging products. Some students are prepared for the content that is planned and taught. Others are not. If the content is too difficult, it can cause the student to feel frustrated, which can result in a poor attitude towards learning.

Differentiated instruction can be specifically beneficial to students when teaching spelling. Learning to spell is a developmental process that depends on a child's maturation and experience. Spelling is an important aspect of language that affects all literacy-related activities. Knowledge of the English language not only facilitates one's ability to communicate successfully, but also contributes to effective writing skills. Building on studies with young children, research suggests that gaining orthographic knowledge is a developmental process stretching across the grades and involving a continuum of increasingly complex inferences of sound-symbol, visual, and semantic relationships (Chomsky, 1971).

In order for students' spelling skills to develop effectively, students require many opportunities to read and write so that they can make generalizations about the different functions of spelling. For meaningful instruction to take place, educators should consider the various needs and developmental stages that students possess and use that knowledge to construct lessons that adapt to each student's different abilities. Often, accessing students' prior knowledge, along with their personal experiences, can help educators to recognize students' needs and determine a starting point for individualized lessons and/or activities. This concept is the idea behind word study.

In word study spelling instruction, students examine shades of sound, structure, and meaning. When using word study, educators do not simply teach words. Rather, they teach students processes and strategies for examining and thinking about the words that they read and write (Bear & Templeton, 1998). Developmental word study is an active learning approach used to study the basic principles of spelling. It draws on research that documents patterns in children's spelling development (Henderson,

1985). Word study is an approach that uses phonics as its base in order to develop spelling and word recognition skills that are differentiated to meet the individual needs of learners. According to Bussis (1985), children's brains are not cameras. Educators cannot "teach" spelling by trying to get children to take better pictures of words so that their mental images are clear and precise. Rather, each student's brain is an "exquisitely designed pattern detector, but it depends on adequate information to work efficiently". Understanding this process can aid educators when creating lessons that are more suitable for each child. Once students establish an understanding of word structure and meaning, they can apply this knowledge to new words they encounter in their reading. Brighter students will no longer be bored, and struggling students will find learning to be more accessible, therefore improving their sense of self-esteem while enhancing their love of learning. This demonstrates why differentiated instruction is such an important factor in educating students successfully.

Another critical element of word study is adherence to a student's developmental level. Vygotsky's zone of proximal development serves as a foundation for this concept. Vygotsky theorized that teachers must not only know the developmental level of their students, but they must also be knowledgeable about instruction (Dahl, et al., 2001). Teachers must make efforts to understand the critical relationship between their students' development and the many different instructional possibilities that can be implemented into their classroom to better enhance each student's learning experience.

As educators gain an understanding of spelling development, they begin to recognize that teaching students to spell is a very complex process. Traditionally, spelling instruction consists of a basal spelling list given to students on Monday and later



testing the students on Friday. Repetitive drill and practice activities generally take place throughout the week. A sample weekly lesson plan to demonstrate this process is shown in Appendix A (Abbott, 2000). Enforcing the repetition of words through drill and practice has earned traditional spelling instruction a reputation of being boring and redundant. Typically, spelling instruction bases most of its activities on memorization, drill, and an emphasis on being correct. This kind of instruction warrants educators to be the givers of information while students are considered to be “empty vessels”, passively learning through imitation, memorization, and rote learning. It is assumed that spelling knowledge acquired in this manner logically leads to accurate spelling in students’ writing. Therefore, because teachers expect correctness in written work, they circle errors, grade down for incorrect spelling, and expect students to correct all errors (Taylor, 1998). Taylor also states that rather than emphasizing correctness in all spelling, teachers should understand that initial spelling attempts improve with increased language experiences, good modeling, and teacher guidance. This idea has given rise to the more transitional position of word study.

Extended word study approaches spelling instruction from the opposite direction. Instruction is provided within the student’s developmental level based on the student’s current stage of orthographic knowledge. Students participating in a word study spelling program do not simply memorize lists made available to them through the basal reader. Instead, they are given a spelling inventory that generates a list of words that fit a specific sound and then the students categorize these words into common patterns. Also, the words can be derived from student readers and/or other age and level appropriate reading sources. Appendix B demonstrates a weekly lesson plan using this type of spelling

instruction (Abbott, 2000). Because reading and spelling are so closely linked, the words studied in spelling should come from student's reading material so that phonetics, spelling rules, and semantic and visual functions are learned in a context meaningful to the child (Taylor, 1998).

In word study, teachers plan word sorts and word games according to students' developmental stages. Word sorts help students to compare and contrast words, while thinking about how they are alike and different in context. These types of activities also allow students to formulate relationships between related word patterns, which can be applied to reading and writing tasks, in addition to spelling. The ability to categorize new words into specific patterns helps students to develop an understanding of associations between words. Categorization is a fundamental cognitive activity, which leads to forming the concepts that make up our knowledge-base (Gillet & Kita, 1980). Furthermore, categorization allows students to create order in the stimuli that they receive by considering new stimuli in relation to things that are already familiar and making generalizations about the characteristics of all members of a certain category (Bruner, Goodnow, & Austin, 1966). In addition to word sorts, students can also be exposed to different word games through word study, such as everyday board games and/or card games. Teachers can use these types of games to create a developmentally appropriate activity incorporating words derived from the student's individualized spelling list. Examples are Boggle, Hangman, Jeopardy, or Wheel of Fortune. These, and several other teacher-created games, can be modified to coincide with a student's particular level of spelling development.

These stages are determined through the use of a spelling inventory. An example of an elementary spelling inventory is exhibited in Appendix C. These inventories are administered the same way as a traditional spelling test. However, the inventories can be discontinued after a student misses five words consecutively. Appendix D shows a guide that teachers can use as a benchmark to determine a student's range of orthographic development based on the number of words spelled correctly, as the words are related to each stage. Administering a spelling inventory helps the teacher to assess student literacy achievement and vocabulary, as well as their prior knowledge of spelling words. The inventory also provides teachers with the starting point they need in order to determine an appropriate developmental level for each student. Therefore, teachers can begin to implement a suitable word study spelling program for each student.

Specifically, there are five developmental stages of spelling as determined through word study: Preliterate, Letter Name, Within Word Pattern, Syllable Juncture, and Derivational Constancy (Henderson, 1990). Appendix E shows a brief outline describing each of these stages (Fresch, 2001). The preliterate stage, also called the emergent period of literacy development, is a stage characterized by students pre-reading books with repetitive context. Students will use illustrations to draw conclusions when attempting to read unknown words. Also, students at this level will pretend to read and write, using incorrect spellings. At this stage of development, students may scribble their words and/or create marks bearing no relationship to sounds, however there is plenty of oral language use. Students at this stage begin to recognize the alphabet, especially the letters in their name. Teachers can use magnetic letters or Ellison cut letters to have students physically manipulate the letters into words. Students may attempt to use these

familiar letters to write inventively, but not accurately. During this time, students will most likely finger point when they read and encounter new words, however they will begin to correctly use letters to represent sounds near the end of this stage.

The word study activities recommended for the preliterate stage are mostly geared toward promoting vocabulary and concept development, awareness of sounds, concept of a word, and the alphabetic principle. Activities such as lap reading help students to make the connection between print and speech. Not only are they visually seeing the words, but they are hearing how to correctly pronounce the words as well. At this stage, teachers may engage students in rhyming games to develop phonemic awareness, and picture sorts to aid students in observing the association between beginning consonant sounds and corresponding letters. Once children achieve a concept of a word in print and can segment speech and represent beginning and ending consonant sounds in their spelling, they are no longer emergent, but beginning readers (Bear, et al., 2000). At this point, students move to the next stage of spelling development, the letter name stage.

The second stage of spelling development is letter name. This stage includes the beginning of conventional reading and writing. Students at this stage can read and write, however the process is carried out slowly. Students will sound out words letter by letter, that is, they focus primarily on the alphabetic principle of matching sounds to letters. Also, students at this stage know most beginning and ending sounds and some short vowel sounds. Often at this stage, students may misuse or neglect to use blends and/or digraphs in their writing and have difficulty recognizing long vowel sounds in words. Because students at this stage only know how to read and write a small number of words

correctly, their writing is limited but more readable to themselves and to others. This promotes a sense of achievement as well as an increase in self-esteem.

Word study activities appropriate for this stage of spelling development help students acquire a sight vocabulary of high frequency words through reading and word banks. Often, providing students with many opportunities to reread familiar books, enhances the process of developing a sight vocabulary. These types of lessons work to construct phonics generalizations through picture and word sorts, and create even more sophisticated, if not completely accurate, spellings as they write (Bear, et al., 2000). The picture sorts used are geared mostly towards beginning and ending sounds, which strengthens the student's ability to associate letters, mainly consonants, with their sounds. However, if students can successfully show a relationship between consonants and their sounds, then teachers can begin using picture sorts with contrasting vowel sounds in order to teach students how to make the distinction between different vowels and their sounds. This stage builds a solid foundation for the next stage of spelling development.

Within word patterns is the third stage of spelling development in word study. Here, the student approaches fluency in both reading and writing. Instead of reading words letter by letter, as in the previous stage of development, students begin reading at a quicker pace using more fluency and more expression as they read aloud. Students may begin to independently read chapter books as they emerge into more silent reading. Their writing is presented in a more detailed and organized fashion, as their familiarity with new words has expanded. Generally, students' writing becomes more fluent at this time and their ideas are represented in a more sequential manner. Students may begin to construct their writing activities with more speed and consistency. Also, their writing

will become a less conscious effort for them as more writing opportunities arise. Stories written by students at this stage often possess themes or morals, including appropriate characters, setting, and plot.

Appropriate word study activities to use at this level of development would require less use of word banks and more reliance on a word study notebook, which students can use daily to record new words and patterns. This provides students with a simple way to refer back to new words as they need them and recall the accurate spelling of words for future use. These new words can be grouped by sound, patterns in letters, or by meaning. Compound words and homonyms are investigated at this stage, which expands the growing sight vocabulary that students have already established. During this stage, word study also focuses on students gaining a better understanding of long and short vowels. In doing this, students are more capable of making comparisons between both long and short vowels, discovering along the way that there are different vowel patterns. Students are not developmentally prepared to study and accurately remember word patterns unless they clearly and easily recognize the differences between long and short vowel patterns. Furthermore, students at this stage begin to develop a sense that certain word and vowel patterns are not always consistent with the letter's sound. For example, words with silent e, such as come or have, do not fit the long vowel pattern. These types of words can be added to the students' word study notebooks and sorted according to their pattern. This procedure can increase student interest in vocabulary and expand upon existing knowledge of words. Also, the process of organizing words in their notebook according to specific word patterns provides students with the opportunity to further explore words in the correct context and to correctly use new words in their

writing. The skill of proofreading is introduced at this stage, as well as the study of word families. Studying word families increases the number of words spelled correctly, particularly when adding endings to the base words. In the next stage of spelling development, the spelling-meaning connection, which is a fundamental skill for students to understand, is further explained.

The spelling-juncture stage is the fourth level of spelling development. This stage and the fifth stage mark the intermediate and more specialized stages. Here, the focus is mainly on grammar and affixation, which is the process of attaching a word part to a base word. For example, adding a prefix or a suffix to a word would be considered affixation. When students are at this level of development, they need to fully comprehend the process by which words are formed, that is, they need to understand how important word parts combine to form words and their meaning. Students can generally spell both short and long vowel sounds in one-syllable words correctly at this stage, however they have difficulty with the process of doubling consonants within words of two or more syllables. In this stage, students begin to consider and recognize where syllables meet. This process is called juncture. In word study, students examine two syllable words and start to identify the principle of consonant doubling. For instance, students will begin to understand that a second p is added to stop before adding -ed or -ing. Also, during this stage, students study the various spelling changes that take place when creating plural nouns. An example would be that students would learn to drop a y and add -ies to make the word pony plural. Furthermore, students will study how to correctly accent words with two syllables and they will understand how a change in accent can affect a word's meaning and/or function. This examination of words better enables students to identify

what they know about spelling patterns and it also assists them in developing accurate meanings of words and how to appropriately use these words in context. Word study at this intermediate level should demonstrate to students how their word knowledge could be applied to advance their spelling knowledge, their vocabulary, and their strategies for figuring out unknown words (Bear, et al., 1996).

Reading at this level of development continues progressively with improved fluency and expression. Students will emerge into chapter books that are longer in length than previously chosen books at earlier stages. Also, students maintain a faster pace when reading silently than when reading aloud. Written responses during this stage are more sophisticated and critical, possessing accurate sentence structure and organization. Students may begin to explore different genres and writing styles, while also learning how to correctly outline important concepts and develop a purpose for reading. Reading comprehension at this level of development is generally accurate and students are more capable of differentiating between the main idea of a passage and the supporting details. In the syllable-juncture stage of spelling development, teachers are able to establish a firm foundation and background in spelling as well as an increase in vocabulary development. Also, teachers can facilitate students' knowledge of understanding different word meanings and the overall structure in the orthographic system.

Suitable activities for this stage include additional word sorts, such as using words with exceptional rules. An example would be administering words that use –ai or –ay in place of the long a sound or using –ea in place of the long e sound. This gives students the opportunity to compare and contrast various combinations of words, which can be applied to a larger number of words. Engaging students in the writing process, more



specifically, encouraging them to proofread their work and/or the work of their peers, can prove to be a valuable activity at this stage as well. This process can enable students to become more conscious of their writing strategies and perhaps assist them in remembering ways to correct mistakes in the future. Students will continue to study word families and begin to investigate word histories, which can increase the number of correctly spelled words and enhance curiosity about words to help with retention. Studying word histories will be explored further at the next stage of spelling development.

The fifth, most advanced stage of spelling development is the derivational constancy stage. Here, students spell most short and long vowel words that are one syllable correctly and are also capable of spelling many multi-syllabic words. Most high frequency words are mastered, usually having only a few errors with low frequency words. At this intermediate level, students examine the connection between spelling and meaning, that is, students begin to recognize how spelling a word can tell about its meaning. Beginning in the intermediate school year, most students are capable of understanding that the way words are spelled can provide clues to their meaning. Students begin to explore spelling-meaning relationships, helping them become consciously aware of the spelling-meaning principle as it applies in English: Words that are related in meaning are often related in spelling as well, despite changes in sound (Chomsky, 1971).

At this stage, teachers and students work together to formulate discussions concerning the histories of words and the history of the English language in general. For example, more mature readers could explore the Greek and Latin word roots out of which

thousands of words are constructed. In most cases, these words are derived from a single base or root through the addition of affixes, such as prefixes or suffixes (Bear, et al., 2000). Exploring the different origins of words, and how those words are created, provides a powerful building block for learning how to spell new words, as well as facilitating more effective reading and writing. Also, understanding the roots of certain words can increase the number of correctly spelled words on the spelling inventory.

Students at this developmental level participate in numerous reading and writing activities, while exploring various genres as their interests arise. Students develop better study skills including note taking, test taking, report writing, and reference work. Recreational reading becomes a large component and focus at this stage as new interests are acquired. Students have the potential to read and follow more elaborate and complex text structures and to transact more critically with these texts through analyzing, synthesizing, and evaluating (Barone, 1989).

Teachers should continue to use word sorts and word study notebooks regularly; however they should consider focusing on words that students bring from their own reading and writing. The word sorts should be compiled of lists that compare and contrast various patterns as they apply higher-level words. Examples include -le, -ible, -able, and -tion words. Continuing to study word families to develop better awareness of relationships between words is another component of this stage. Teachers could continue to use word families to demonstrate the links between spelling and meaning, while incorporating word roots from Greek and Latin origins. When students develop a fuller understanding of and application for the spelling-meaning connection among familiar words, they are then primed to explore in depth the role that Greek and Latin word

elements play in the spelling and meaning of words (Bear & Templeton, 1998). At this level, words selected for word study should be generative, that is, they should be taught according to their patterns or word families. This highlights students' awareness that specific patterns and/or relationships in words can be extended to other words.

Derivational constancy is a stage that will continue well into adulthood as new words are learned and applied to verbal and written context.

These five developmental stages of spelling development are considered a continuum. Children may demonstrate knowledge stretching across more than one stage. That is, children may be letter name spellers, yet show initial understandings of features in the next stage, within word (Fresch, 2001). According to Fresch and Wheaton (1997), instruction must be organized by developmental needs. It must also maintain a continuous, manageable assessment of children's development. The instructional activities used must assist students' focus on words and word components, using a variety of hands-on activities that allow students to recognize comparisons and differences between words. Lastly, instruction must remain flexible to change with students' individual current needs. To implement word study effectively, teachers and students must work together to become investigators of the English language and develop an interest in understanding word patterns and their relationships to one another. The five developmental spelling stages provide teachers with a benchmark to adequately instruct students considering their instructional level as determined by a spelling inventory, therefore differentiating instruction to fit each child's needs.

Because word study is developmental, individualized, flexible, and maintains an element of teacher guidance, students will participate more in the classroom ensuring a

higher level of confidence and acceptance. This provides a common ground in the school environment that includes all students, allowing them to become actively involved in the learning process regardless of their developmental levels. This type of child-centered instruction helps children to become proficient spellers, while enabling them to make decisions in their own learning and develop and interest in learning their language.

Orthographic knowledge provides us with a framework for understanding what we say, read, and write. In light of recent research on spelling development and word study, the ability to fully comprehend the link that spelling has to other literacy skills could be the key component necessary to help students improve word recognition and vocabulary, increase reading and writing skills, and remember their spelling words after the spelling test on Friday.

The word study approach, however, may not be an appealing alternative to educators, especially those who have become accustomed to a more traditional spelling approach. There have been many views, either supporting or not supporting direct spelling and phonics instruction that have established several different, yet valid points. Sometimes critics of phonics instruction lament that there are too many rules to teach, the rules do not always apply, or the rules are too complicated to be taught. This criticism is apt if the correspondence system is conceived as a series of letter sequence rules, instead of a layered system for representing both sound and meaning (Moats, 1998). Moats goes on to discuss that one of the most fundamental flaws found in almost all phonics and spelling programs, is that they teach code backwards. That is, they go from letter to sound instead of from sound to letter. This approach overlooks the fact that some letter names bear little relationship to the sounds the letters represent and interfere with

learning the sounds. Also, direct phonics and spelling instruction does not always include students learning word meaning, such as in word study where Latin and Greek origins are explored and related to English orthography. Eminent critics of literacy research have not been able to find a single experimental study in which the word meaning approach, to promote spelling retention, has produced higher achievement scores for students rather than a more direct and systematic method of teaching spelling (Groff, 1995).

One of the main criticisms of the word study approach is that it is a very time-consuming program to implement into the classroom as educators may find it difficult to create individualized spelling lists for every student in their class. Furthermore, it can become difficult for teachers to formulate ample time for direct and individualized spelling instruction on a daily basis in combination with other lessons to be taught. According to Stephen Krashen, some spelling words learned through direct instruction can take approximately 20 minutes of instruction time daily in an average classroom. There is also evidence that direct spelling instruction, such as word study, has limited effects on students' abilities to spell words correctly. For example, J. M. Rice's study called "The Futility of the Spelling Grind", published in 1897, showed no relationship between the amount of time devoted to spelling and spelling achievement. Another example includes Oliver Cornman's study, published in 1902, showing that dropping formal spelling instruction had no effect on spelling accuracy (Krashen, 2002). Additionally, in 1977, Donald Hamill, Stephen Larsen, and Gaye McNutt reported that children who had spelling instruction spelled better than uninstructed students in grades 3 and 4, but the differences disappeared by grades 4 and 5. Therefore, according to these

critics, spelling instruction only succeeds in helping children learn to spell words that they would have learned to spell on their own anyway. Stephen Krashen (2002) argues that some students can read words and understand them even though the words are misspelled or phonetically inaccurate. An example of his argument is shown in the following passage, which he received from Cambridge University. The passage shows that although many words are misspelled, readers can still read and understand the meaning of the passage because the human mind does not read words letter by letter, but rather as a whole unit.

Aoccdrnig to a rscheearch at Cmabridge Uinervtisy, it deosn't mttae inwaht order the ltteers in a word are, the only iprmoetnt thing is tahtthe frist and lsat ltteer be at the rghit pclae. The rset can be a total mse and you can still raed it wouthit any porbelm. Tihss is bcuseae the human mind deos not raed ervey lteter by istlef, but the word as a wlohe.

Another disparagement of formal spelling programs is that they require a great deal of tedious practice involving low-level exercises that require very little thinking and take up too much instructional time for the results they produce (Taylor, 1998). Many times, students may be familiar with their new spelling words prior to direct instruction. Moats (1995), suggests that not all children require formal spelling lessons because many words, up to 65%, are known by students before studying them.

Regardless of the many diverse views related to spelling and literacy instruction, educators must recognize that children learn in different ways, therefore varying techniques must be used in the classroom. If there is any doubt in an area as sensitive and crucial as the basic techniques of spelling development, the course of action should

be evident. If students are expected to grow socially, academically, and culturally, then education must remain a constant force in their lives. Educators must determine which instructional methods are most appropriate for their students in order to maintain stability and academic progress in an educational setting, which should ultimately produce well-educated students.

## Chapter 3

### Design of the Study

#### Design

This study used a group pretest/posttest design to determine if students' retention of spelling words improved using a word study spelling approach in comparison with a more traditional spelling program that is used in most classrooms today. The study began with extensive research of the literature on the topics of differentiated instruction, orthography, and word study. Literature was collected and reviewed to discover how children generally learn to spell and what techniques are most effective in teaching them. The word study spelling approach was studied in broad detail, explaining each level of spelling development that exists within this approach. Also, the literature on word study elaborated upon the ways educators can obtain adequate information about each student's level of spelling development in order to ensure an effective mode of spelling instruction. Differentiated instruction was researched in order to determine why the word study approach could be a more effective means of educating students in spelling instruction, that is, understanding that every student has different needs and abilities.

After the literature research was completed, the null hypothesis was formulated. The null hypothesis stated that there would be no significant difference in the long-term retention of spelling words between students whose spelling lists are differentiated based on their developmental level via the word study program and students whose spelling words are uniform lists from the basal reader.

Students' abilities to accurately retain spelling words were measured in two phases in order to adequately determine which approach was more successful and



effective. Phase I began on Monday, with a distribution of basal spelling words from the teacher's edition spelling series. After the students were instructed in a traditional manner throughout the week, they were given a test on Friday. After approximately 3 weeks, the students were retested on these same words in order to evaluate the accuracy of word retention.

In phase II, students were asked to spell words from a spelling inventory obtained from a word study spelling list. The words had no specific linguistic pattern, however there were arranged from easiest to hardest in a series of 5 sets of words; 5 words per set. These words provided crucial orthographic features for each stage of spelling development that made it possible to analyze the words students spelled correctly in order to determine a spelling stage for each child. After this inventory was administered, an individualized spelling list was created for each child using the words from their list. Every child's list was different. Students participated in different word study activities throughout the week using these individualized words. Some activities were individual or with partners and some were in groups with other students who shared the same level of spelling development. An individualized test was given on Friday. Approximately 3 weeks later, the students were retested on their individualized words to measure adequate word retention. Following this test, more word study groups were formed according to students' levels of spelling development.

### Participants

A sample of 20 students was taken from a third grade class at Kresson Elementary School in Voorhees, New Jersey. The class consisted of 11 girls and 9 boys ranging in ages from 8 to 9 years old. This single group was heterogeneously mixed in regards to

gender, ethnicity, and academic ability. Nine students were involved in the enrichment program, which is comparable to a Gifted and Talented program. These students left the classroom for approximately one hour a day to partake in specific lessons formulated by an Enrichment teacher. The students were responsible for any work that they missed while they were out of the classroom. There were no special needs students present in the sample, however one student did participate in the speech and language program. A single group pretest/posttest design was selected instead of a random pretest/posttest design due to the limited availability of students to the examiner.

#### Instrumentation

The goal of this study was to determine if there was a significant difference in student's ability to accurately retain spelling words once a word study approach was implemented. In order to establish student retention, pretests and posttests were administered. The first set of spelling words in phase I were acquired from the third grade Scholastic reading and language series used throughout the Voorhees School District. The posttest in this phase was graded using an EZ Grader. This scoring device considers the number of problems on a test and the number of problems that are incorrect. A numeric score is given based on a scale of 100%.

The second set of spelling words that students were tested on were obtained from an *Elementary Qualitative Spelling Inventory* derived from a word study approach (Bear, 1996). The posttest for phase II was scored the same as phase I, using an EZ Grader to assign a numeric score. However, in order to determine a specific level of spelling development, another scale was used as well in this phase. A range of development was used to consider which level of spelling development each student obtained, such as

Within Word Pattern, Syllable-Juncture, etc. This range of development bases student's level of orthographic knowledge on how many words they spell correctly while considering how many spelling words exist on a list (See Appendix D). Even though words are arranged by difficulty, student growth is gradual and they do not move absolutely from one stage to another, abandoning all vestiges of the previous stage (Bear, et al., 1996).

Both phases included a pretest and a posttest in order to compile enough evidence to determine the accuracy of student retention as well as the different levels of spelling development that exist in the classroom. Also, a non-independent t-test was used to precisely determine if any significant difference existed between the two sets of achievement scores. The statistical results will be examined further in Chapter 4 of this study.

#### Procedure

This study was designed to determine if a word study approach improved student's retention of spelling words more so than a traditional approach to spelling instruction. This study evaluated and recorded the results of the scores students received on the pretests and posttests of two separate spelling lists. After obtaining parental permission (See Appendix F), Phase I of the study began. The students were given a weekly spelling list on Monday consisting of 25 words. This list was acquired from the state approved language arts textbook. The students looked over the spelling list as the teacher read over them and then they glued the list into their spelling notebooks.

Throughout the next 4 days, students received the same spelling instruction as a group, regardless of their levels of spelling development. Some activities included:

writing the words in alphabetical order, using the words in sentences, writing each word 5 times in print and in cursive, and searching for definitions of the words in the dictionary. No direct instruction was given on specific word patterns or similarities between the words and no discussion took place concerning the origins of these words. On Friday, the students were given a spelling test that took about 10 minutes to complete. The tests were collected and scores were calculated and recorded through the use of an EZ Grader.

Approximately 3 weeks later, the students were asked to take a retest of the same basal words. The teacher explained to the students that this was not a graded test, however it was suggested that they attempt to do their best. Students took the test and the tests were collected. Another score was calculated and recorded for each test using the EZ Grader. Then, the 2 scores were compared to determine if there were any changes between the pretest and the posttest in phase I and a difference score was determined.

Two weeks after Phase I was completed, Phase II began. An *Elementary Qualitative Spelling Inventory* (Bear, 1996) was used instead of the uniform basal spelling words. The inventory consisted of 25 words arranged from easiest to hardest. These words were chosen for 2 reasons: because of their frequency of occurrence, and their orthographic patterns. The frequency of occurrence is based on the number of times the words are found in children's books as well as their own writing (Bear, 1996). Students were informed that the inventory was not considered to be a graded assessment. Instead, students were told to try their best and remain calm, even if they encountered an unfamiliar word. Student participation was monitored as some students became easily frustrated while completing this inventory. The teacher stopped occasionally to reiterate to students that they should simply try their best with these words. When students

finished the spelling inventory, the teacher collected the papers and recorded the results. The teacher determined what level of spelling development each student acquired and created an individualized spelling list for each student.

As in Phase I, different activities were used throughout the week using the students' new individualized spelling lists. However instead of whole group activities, word study activities were implemented where students worked alone, with partners, or in small groups. These groups were arranged according to each student's level of spelling development, which was derived from the spelling inventories. On Friday, the students were given a test on the words from their individualized lists only. Because of the varied levels of spelling development and different spelling lists, the tests had to be administered separately in small groups or one at a time. Approximately 40 minutes later, all of the students were tested and the papers were collected and calculated.

About 3 weeks later, the students were asked to take a retest using the same words from their individualized lists. The tests were given the way as the original test and it took about the same amount of time. Another score was recorded using the EZ Grader. The 2 scores derived from Phase II were then compared and a difference score was determined in order to recognize if there was any discrepancy between them. The completion of this test ended Phase II of this study.

## Chapter 4

### Analysis of the Data

#### Results

This study attempted to determine if a word study spelling approach would significantly influence students' long term retention of spelling words more so than a more traditional spelling approach. The two methods of spelling instruction were examined and compared in order to determine if a significant difference existed between them.

This study gathered data from student performance using a pretest/posttest design in two separate phases. In Phase I a test was administered to the students after 5 days of traditional instruction in spelling using the basal spelling list obtained from the scholastic reading series. Students were then retested on these same basal words 3 weeks later in order to determine if there was any significant variation in students' retention of these words. Phase I ended after the posttest was administered.

Table 1 displays the differences in scores between the two tests given in Phase I. Also, an adjusted retention score was calculated to assist the examiner in clearly determining student's retention of spelling words when comparing pretest and posttest scores. A value of 100 was added to each difference score in order to obtain an adjusted retention score that precisely demonstrated the differences without any negative integers. Furthermore, the difference scores and adjusted retention scores were added together to acquire a total so that when the results from Phase I were compared with Phase II, the ability to recognize any significant differences could be easily shown in a clear, concise manner.

Table 1

Analysis of the differences between pre and post test scores in Phase I after 3 weeks.

Student Number	Pretest Score	Posttest Score	Difference Score	Adjusted Retention Score
1	87	87	0	100
2	100	100	0	100
3	100	87	-13	87
4	100	100	0	100
5	100	100	0	100
6	100	100	0	100
7	100	87	-13	87
8	100	93	-7	93
9	100	100	0	100
10	93	100	7	107
11	100	87	-13	87
12	100	100	0	100
13	100	100	0	100
14	100	100	0	100
15	95	93	-2	98
16	100	100	0	100
17	100	100	0	100
18	100	100	0	100
19	100	100	0	100
20	100	100	0	100

Total of Difference Scores = -41

Total of Adjusted Retention Scores = 1959

This analysis shows that 14 students out of 20 displayed no change in their long-term retention of the basal spelling words after a 3-week time frame. Five students scored an average of 9 points lower on the posttest than on the pretest and one student scored 7 points higher on the posttest. The data demonstrates that more than half of the class achieved 100% in retention of spelling words after the 3 weeks had passed.

Phase II of the study began approximately 2 weeks after Phase I had ended. Prior to actual instruction, a spelling inventory was administered to the class in order to determine appropriate levels of spelling development for each student. This inventory was obtained from a word study spelling series (Bear, 1996). Individualized spelling lists were created for each student. After 5 days of word study activities, the students were tested on their specific lists. As in Phase I, students were then retested on these same words about 3 weeks later in order to determine accurate retention levels of these words. Phase II ended with the completion of the second test. Table 2 shows the differences in scores between the two tests given in Phase II.

Table 2

Analysis of the differences between pre and post test scores in Phase II after 3 weeks.

Student Number	Pretest Score	Posttest Score	Difference Score	Adjusted Retention Score
1	80	75	-5	95
2	93	87	-6	94
3	93	93	0	100
4	100	93	-7	93
5	93	93	0	100
6	100	93	-7	93
7	87	93	6	106
8	100	100	0	100
9	100	87	-13	87
10	100	100	0	100
11	87	87	0	100
12	100	87	-13	87
13	100	100	0	100
14	93	100	7	107
15	100	100	0	100
16	100	93	-7	93
17	100	100	0	100
18	100	87	-13	87
19	100	100	0	100
20	100	100	0	100



Total of Difference Scores = -58

Total of Adjusted Retention Scores = 1942

As in Phase I, an adjusted retention score was calculated as well as a difference score in order to provide additional clarification of any differences between both Phases of this study. The data represented in Table 2 illustrates that 10 students achieved 100% retention levels, eight students experienced lower scores than they received on the initial test, and 2 students improved their scores.

The purpose of this study was to determine if a significant difference existed when comparing student's retention of spelling words after several weeks had passed, that is, after the initial spelling test was administered. Approximately 3 weeks passed within each Phase from the time that the initial test was given up until the time the second test was administered. Two different methods of spelling instruction were used in determining if any discrepancies were apparent. The first method was one of a more traditional nature whereas the second method used was that of a word study approach. Tables 1 and 2 clearly show the differences that occurred within each Phase, however for the purpose of this study, further evaluations were made.

Given that the intention of this study was to compare the two different methods of spelling instruction, both sets of difference scores that were obtained from each phase were compared in order to determine if there was a significant difference in the long-term retention of spelling words. A non-independent t-test was used to examine these differences and the data collected is displayed in Table 3.

Table 3

Analysis of the difference scores obtained from Phase I and Phase II.

Number of pairs of scores	20
Sum of "D"	- 17.00
Mean of D's	- 0.85
Sum of "D <sup>2</sup> "	1565.00
t-value	- 0.42
Degrees of freedom (df)	19

The non-independent t-test illustrated in Table 3 revealed that there was no significant difference between the total adjusted retention scores in Phase I, which were 1959, and the total adjusted retention scores in Phase II, which were 1942. This analysis demonstrates that students' retention levels of spelling words were only slightly better during Phase I, using a more traditional method of instruction, than in Phase II, where a word study approach was implemented.

This chapter discussed the results of the study in a statistical way. This study was designed to determine if a significant difference existed in students' long-term retention of spelling words depending on the type of teaching method used. The results revealed that there was no significant difference in students' retention levels of spelling words between Phase I, where the spelling lists were obtained from the state approved basal reader, and Phase II, where the spelling lists were obtained from a word study spelling inventory.

## Chapter 5

### Conclusions and Recommendations

#### Conclusions

The statistical analysis of this study indicates that the null hypothesis, which stated that there would be no significant difference in the long term retention of spelling words between students whose spelling lists were differentiated, based on their developmental level via the word study program, and students whose spelling words were uniform lists from the basal reader, must be accepted. According to the non-independent t-test, there was no significant difference found between the difference scores when both phases were compared. The results of Phase I, where a more traditional method of spelling instruction was used, did not indicate a significant difference when compared with the results of Phase II, where a less traditional word study spelling approach was used.

Although the methods of spelling instruction varied, the examiner maintained the same manner of instruction within each phase. In Phase I, when traditional spelling instruction was implemented, the examiner strictly followed a traditional routine of teaching. There were not any word study activities or strategies used during this phase. The same procedure was followed in Phase II of this study as well. As a word study method of spelling instruction was used, the examiner did not incorporate any activities of a more traditional nature. Instead, the daily lessons in Phase II were formulated using a word study approach derived from the *Words Their Way* series (Bear, et al., 2000).

The examiner acknowledged that overall most students felt more comfortable with the traditional method of instruction than the word study approach. The fact that

this type of traditional spelling instruction was what the students were most accustomed to using in their classroom, was taken into consideration by the examiner. Students clearly acknowledged that there were differences between the two methods of spelling instruction that were used. Some students described the word study approach as being “different” and “fun” while others felt that the process of creating individualized spelling lists “took too long” and the words used on the spelling inventory were perceived as being “too hard”. The examiner did understand that the students, who were informed of the study when parental permission slips were sent home, may have skewed their responses when asked about the experiment because they knew that they were part of a study. Even though the students did not know the details or specifics of the study, they were still aware of its existence in the classroom. These “subject effects” can occur when subjects of a study change or alter their behavior because they are aware that they are part of a study and that they are being observed.

The findings of this study provided insight into how teachers’ instructional choices affect students’ reservoirs of orthographic knowledge, and more specifically, how these choices can improve and/or maintain accurate retention of words. Orthographic knowledge provides students with a framework and foundation for comprehending what they say, read, and write. Therefore, it was believed that improving orthographic knowledge can assist students in formulating educated guesses when spelling and reading words in which they are not particularly familiar with originally. In light of recent research on spelling development as reported in this study, the reliability of spelling generalizations; the significance of spelling’s connection with other literacy skills, and

the importance of maintaining accurate retention levels of words, are all components in the production of constructive readers and writers.

### Recommendations

Future study and research is strongly recommended since not enough sufficient data has been collected at the elementary level to further differentiate between a word study spelling approach and a traditional spelling approach. Additional research concerning this topic could possibly gain more reliable results if a larger sample size from which to obtain data was used. However, the ability to obtain parental permission from a larger group of students may be difficult to accomplish. Unfortunately, some parents do not maintain open lines of communication with their child's teacher and this may present a problem when attempting to acquire permission to actively involve a student in a research project. Given more preparation, however, the examiner could discuss conducting the study to parents at Back to School Night or during parent-teacher conferences and perhaps ask parents to sign the permission slips at that time. This could eliminate or reduce subject effects if students were unaware of their role in the study.

Another recommendation would be to limit the length of time that is required in order to complete this study. In order to accurately assess students' retention levels in the second phase of this experiment, a spelling inventory must be administered in order to create an individualized spelling list for each student. When administering the posttest, the teacher must meet with each student individually or in small groups with other students who have the same or similar word lists and orally dictate the spelling words. This process is a very time consuming and extensive procedure which can ultimately cause apprehension among teachers who already possess a heavy work load. The length

of time within each phase may also present a problem for teachers with a busy schedule. A series of weeks must pass in between each phase in order to adequately determine the levels of word retention for each student. Daily, most teachers are required to teach the necessary curriculum, involve their students in special activities and/or projects, participate in voluntary events and fund-raisers, and communicate with parents, administrators, and other teachers. Attempting to incorporate a new approach to spelling instruction instead of the more traditional approach that is mostly used in schools today, may not seem to be an appealing or worthwhile alternative to some teachers.

While some examiners may consider the time allotment for this study as being too long, others may consider extending the length of time necessary to complete this experiment. Researchers interested in elaborating upon this study may consider allowing more than 3 weeks within each phase to determine word retention. This recommendation could provide examiners with a better assessment of students' word retention levels if more time has passed between pretests and posttests.

The participants of this study had mixed ability levels, however no special needs students were involved. Although some students were included in the Gifted and Talented Program, the class generally demonstrated average to high academic levels. Perhaps another recommendation for this study may be to perform this experiment including students with special needs and abilities. The same procedure could be followed when completing the study, however some accommodations could be made in order to assist these students in completing the experiment accurately to determine retention levels within each phase. One accommodation could be to allow more time for these students to complete the pretest, posttest, and spelling inventory. Also, the

examiner may limit the amount of words used in Phase II's spelling inventory, as some of the words may become too complicated for students who experience learning difficulties. The manner in which the examiner scores the tests could be another modification made for these students. Test scores could be calculated using different methods of grading or a "curve" considering students disabilities or ability levels when comparing pretest and posttest scores.

One last recommendation for this study could be to experiment using students in other grade levels and/or schools. This study focused on a small group of third grade students who were 8 or 9 years of age. Performing this experiment with other grade levels and students of different ages could provide the examiner with more perceivable evidence concerning the outcome of this study, and more importantly, the accuracy of the results.

This study showed that there was no significant difference in student retention levels of spelling words when comparing the results between two different methods of spelling instruction. Due to the limited amount of time given for this study and the small group sample that was used, further research is recommended. There are several other methods and strategies that could be implemented when teaching spelling. Although this study focused specifically on two methods, more research should be conducted in order to determine if significant differences are present in other experiments using other participants, settings, and time frames. There are many aspects to consider when conducting research and those differences should be further explored and examined in a statistical way in order to obtain accurate results.

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Appendix A

Sample of a Traditional Spelling Lesson Plan

Day	Student Activity
Monday	Write each spelling word in print and cursive. Choose five words, find the word in the dictionary, and write the definition.
Tuesday	Write a sentence using each of the spelling words.
Wednesday	Put the spelling words in ABC order.
Thursday	Check for understanding. Students quiz each other on the list of words.
Friday	Spelling test.

## Appendix B

### Sample of an Extended Word Study Lesson Plan

Sequence	Student Activity
1	Brainstorm a set of words for a teacher-supplied sound.
2	Divide the words into groups of common spellings.
3	Teacher leads the students to discover most common usage patterns and applicable generalizations, and to relate this new information to past discoveries.
4	Spend numerous days working in group and individual activities to reinforce discoveries of most common usage patterns and generalizations.
5	Teacher often administers non-graded formative quizzes to assess progress.
6	When a quiz suggests that students have mastered common spellings associated with the sound, the process begins anew.

Appendix C

Elementary Qualitative Spelling Inventory



This is a short spelling inventory to help you learn about your students' orthographic knowledge. The results of the spelling inventories will have implications for reading, writing, vocabulary and spelling instruction.

**Instructions:** Let the students know that you are administering this inventory to learn about how they spell. Let them know that this is not a test, but that they will be helping you be a better teacher by doing their best:

**Possible script:** "I am going to ask you to spell some words. Try to spell them the best you can. Some of the words will be easy to spell; some will be more difficult. When you do not know how to spell a word, spell it the best you can; write down all the sounds you feel and hear."

Say the word once, read the sentence and then say the word again. Work with groups of 5 words. You may want to stop testing when students miss 3 out of 5 words. See the text for further instructions on administration and interpretation.

Have students check their papers for their names and the date.

### Set One

- |          |  |
|----------|--|
| 1. bed   | I hopped out of <i>bed</i> this morning. <i>bed</i>            |
| 2. ship  | The <i>ship</i> sailed around the island. <i>ship</i>          |
| 3. drive | I learned to <i>drive</i> a car. <i>drive</i>                  |
| 4. bump  | That is quite a <i>bump</i> you have on your head. <i>bump</i> |
| 5. when  | When will you come back? <i>when</i>                           |

### Set Two

- |             |  |
|-------------|--|
| 6. train    | I rode the <i>train</i> to the next town. <i>train</i>             |
| 7. closet   | I put the clothes in the <i>closet</i> . <i>closet</i>             |
| 8. chase    | We can play run and <i>chase</i> with the cats. <i>chase</i>       |
| 9. float    | I can <i>float</i> on the water with my new raft. <i>float</i>     |
| 10. beaches | The sandy <i>beaches</i> are crowded in the summer. <i>beaches</i> |

### Set Three

- |                |   |
|----------------|---|
| 11. preparing  | I am <i>preparing</i> for the big game. <i>preparing</i>                    |
| 12. popping    | We are <i>popping</i> popcorn to eat at the movies. <i>popping</i>          |
| 13. cattle     | The cowboy rounded up the <i>cattle</i> . <i>cattle</i>                     |
| 14. caught     | I <i>caught</i> the ball. <i>caught</i>                                     |
| 15. inspection | The soldiers polished their shoes for <i>inspection</i> . <i>inspection</i> |

### Set Four

- |               |   |
|---------------|---|
| 16. puncture  | I had a <i>puncture</i> in my bicycle tire. <i>puncture</i>                                   |
| 17. cellar    | I went down to the <i>cellar</i> for the can of paint. <i>cellar</i>                          |
| 18. pleasure  | It was a <i>pleasure</i> to listen to the choir sing. <i>pleasure</i>                         |
| 19. squirrel  | We found the tree where the <i>squirrel</i> lives. <i>squirrel</i>                            |
| 20. fortunate | It was <i>fortunate</i> that the driver had snow tires during the snowstorm. <i>fortunate</i> |

### Set Five

- |                |   |
|----------------|---|
| 21. confident  | I am <i>confident</i> that we can win the game. <i>confident</i>                          |
| 22. civilize   | They had the idea that they could <i>civilize</i> the forest people. <i>civilize</i>      |
| 23. flexible   | She was so <i>flexible</i> that she could cross her legs behind her head. <i>flexible</i> |
| 24. opposition | The coach said the <i>opposition</i> would give us a tough game. <i>opposition</i>        |
| 25. emphasize  | In conclusion, I want to <i>emphasize</i> the most important points. <i>emphasize</i>     |

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## Administering a Spelling Inventory

These spelling inventories are as easy as any spelling test to administer and should take no more than 15 minutes to complete. The spelling lists and the basic directions for administering the inventories are presented in Figure 3-2. These lists can be reproduced and used by teachers in a school to create a school profile, and to help track students' progress over several years. (School-wide assessments are discussed in more detail below.)

**Appendix D**  
**Ranges of Development**

Number of Words Spelled Correctly	Range of Development
0 1-5 5-10 10-25	Preiterate – Letter Name Letter Name – Within Word Pattern Within Word Pattern – Syllable Juncture Syllable Juncture – Derivational Constancy

## Appendix E

### Characteristics of Different Spelling Stages

### Preliterate/Prephonetic

- Scribbles
- Imitates reading and writing
- Is aware of print

### Preliterate/Phonetic

- Learns alphabet
- Strings letters to write words

### Letter Name

- Uses logic to aid in spelling attempts
- Begins to develop sight vocabulary
- Uses obvious strategies to spell, such as name of letter
- Often exchanges short vowel sound for closest long sound (*a* for short *e*; *e* for short *i*)
- Makes errors with affrications (*jriv* for *drive*) and nasal consonants (*bop* for *bump*)
- Uses exaggerated sounding (*palen* for *plane*)

### Within Word

- Develops growing sight vocabulary
- Correctly uses short vowels
- Marks long vowels (sometimes incorrectly)
- Uses *-d* for past tense, adds *-ing*
- Understands words have two elements—beginning consonant pattern and a vowel + ending
- Begins to internalize rules
- May over generalize rules (e.g., doubles when not needed)

### Syllable Juncture

- Begins to correctly double consonants
- May incorrectly spell schwa sound
- Shows orthographic awareness available for word attack through spellings

### Derivational Constancy

- Examines words for derivational root
- Observes relationships between words due to similar derivation

**Appendix F**  
**Parental Consent Form**

November 12, 2004

Dear Parent/Guardian:

I am a graduate student in the Elementary Education Department at Rowan University. I will be conducting a research project under the supervision of Dr. Louis Molinari as part of my master's thesis. The research will investigate how children learn spelling words and if a specific word-study spelling program can better enhance their long-term retention of these words. This experiment will help me to better understand the process by which children memorize and retain information and how they can apply these skills in future reading and writing assignments.

I am requesting permission for your child to participate in this research. This is simply an experimental study for me to obtain information regarding a particular word study-spelling program. I hope to better understand how this program operates and, more specifically, if this program is more effective than others currently being used in the classrooms.

Please understand that there are no physical or psychological risks involved in this study and there will be no discrepancies in the students' regular schedule. They will be tested normally on their weekly spelling words.

Thank you in advance for your cooperation.  
Sincerely,

Lauren M. Cassano, Third Grade Teacher  
Kresson Elementary School  
Voorhees, New Jersey  
(856) 424-1816 ext. 2124

---

\_\_\_\_\_ I grant permission for my child to participate in this study.

\_\_\_\_\_ I do not grant permission for my child to participate in this study.

Child's Name \_\_\_\_\_

Parent's Signature \_\_\_\_\_ Date \_\_\_\_\_

**Appendix G**  
**IRB Approval Form**



Rowan University  
**INSTITUTIONAL REVIEW BOARD**  
**HUMAN RESEARCH REVIEW APPLICATION**

**INSTRUCTIONS:** Check all appropriate boxes, answer all questions completely, include attachments, and obtain appropriate signatures. Submit an **original and two copies** of the completed application to the Office of the Associate Provost for Research Expediter(s). Be sure to make a copy for your files.

**FOR IRB USE ONLY:**

Protocol Number: IRB- 2004-177

Received: \_\_\_\_\_ Reviewed: \_\_\_\_\_

Exemption:  Yes  No

Category(ies): \_\_\_\_\_

Approved [Signature] (date)

12/03/04 *complete!*  
*Approve*

**Step 1: Is the proposed research subject to IRB review?**

All research involving human participants conducted by Rowan University faculty and staff is subject to IRB review. Some, but not all, student-conducted studies that involve human participants are considered research and are subject to IRB review. Check the accompanying instructions for more information. Then check with your class instructor for guidance as to whether you must submit your research protocol for IRB review. If you determine that your research meets the above criteria and is not subject to IRB review, **STOP**. You do not need to apply. If you or your instructor have any doubts, apply for an IRB review.

**Step 2: If you have determined that the proposed research is subject to IRB review, complete the identifying information below.**

Project Title: The Effects of a Word-Study Spelling Program in a Differentiated Classroom

Researcher: Lauren M. Cassano	
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Approved For Use by Rowan IRB: 7/04